

Replacement Sheet

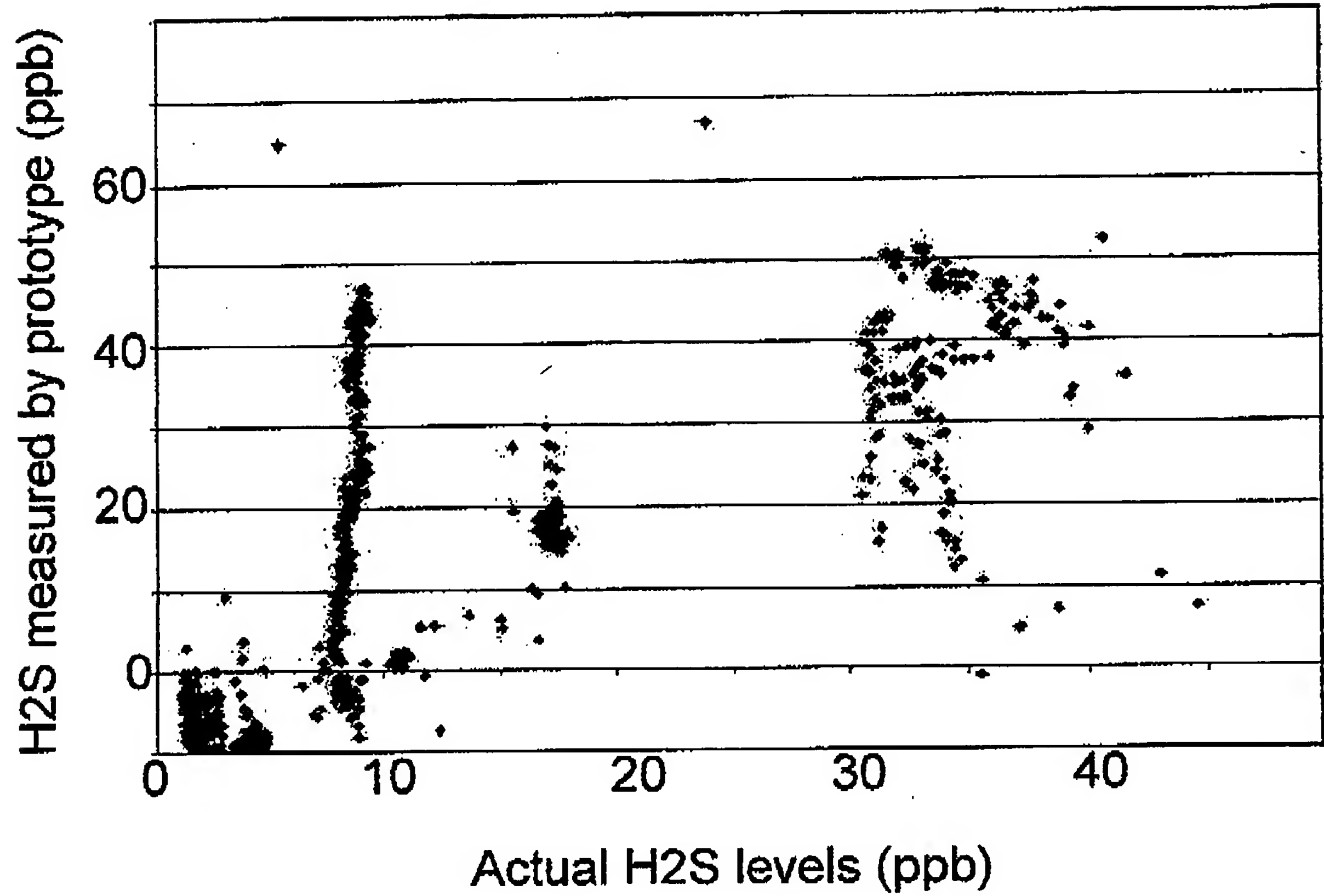


Figure 1: Raw Data

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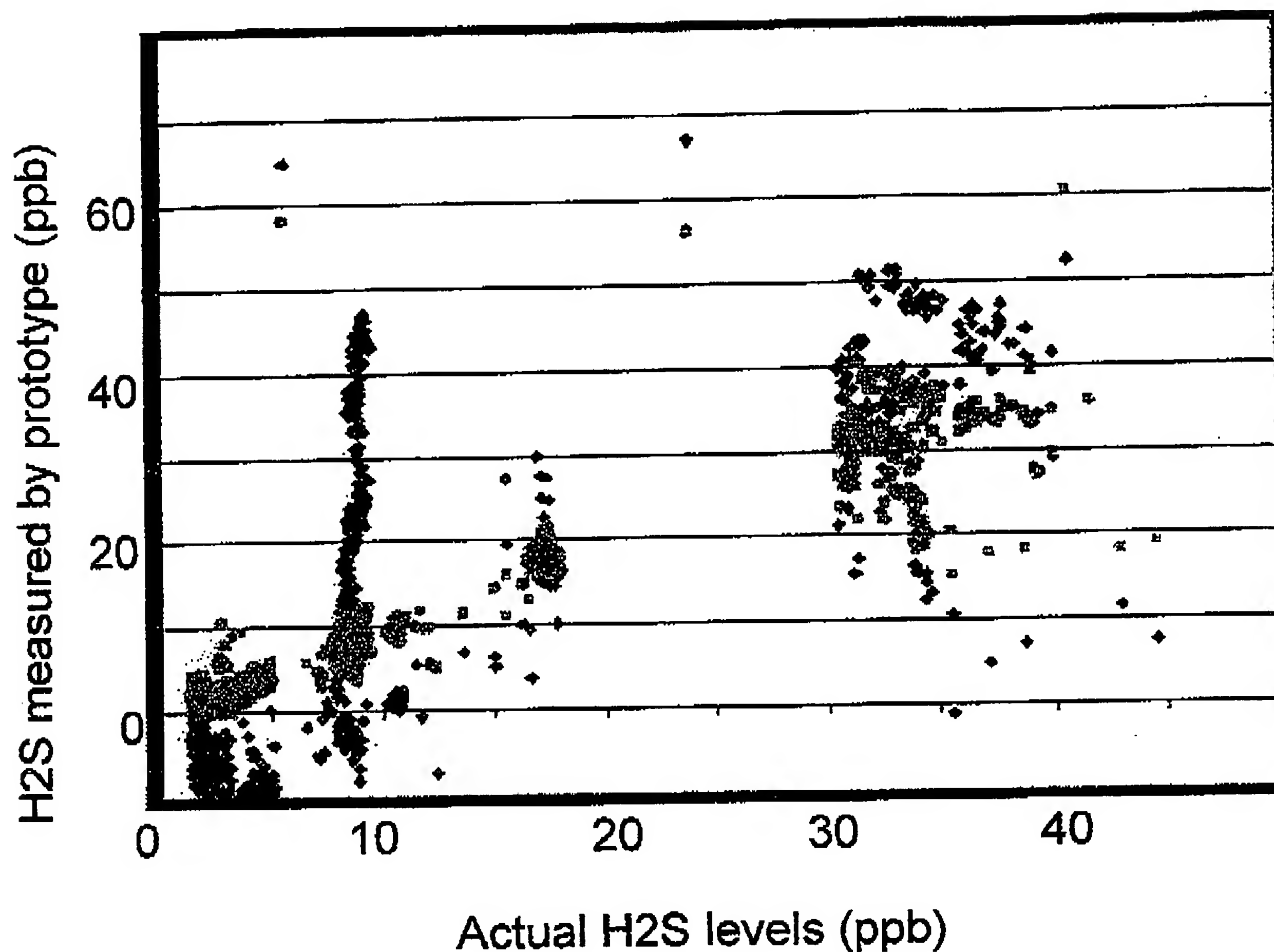


Figure 2: Baseline corrected output

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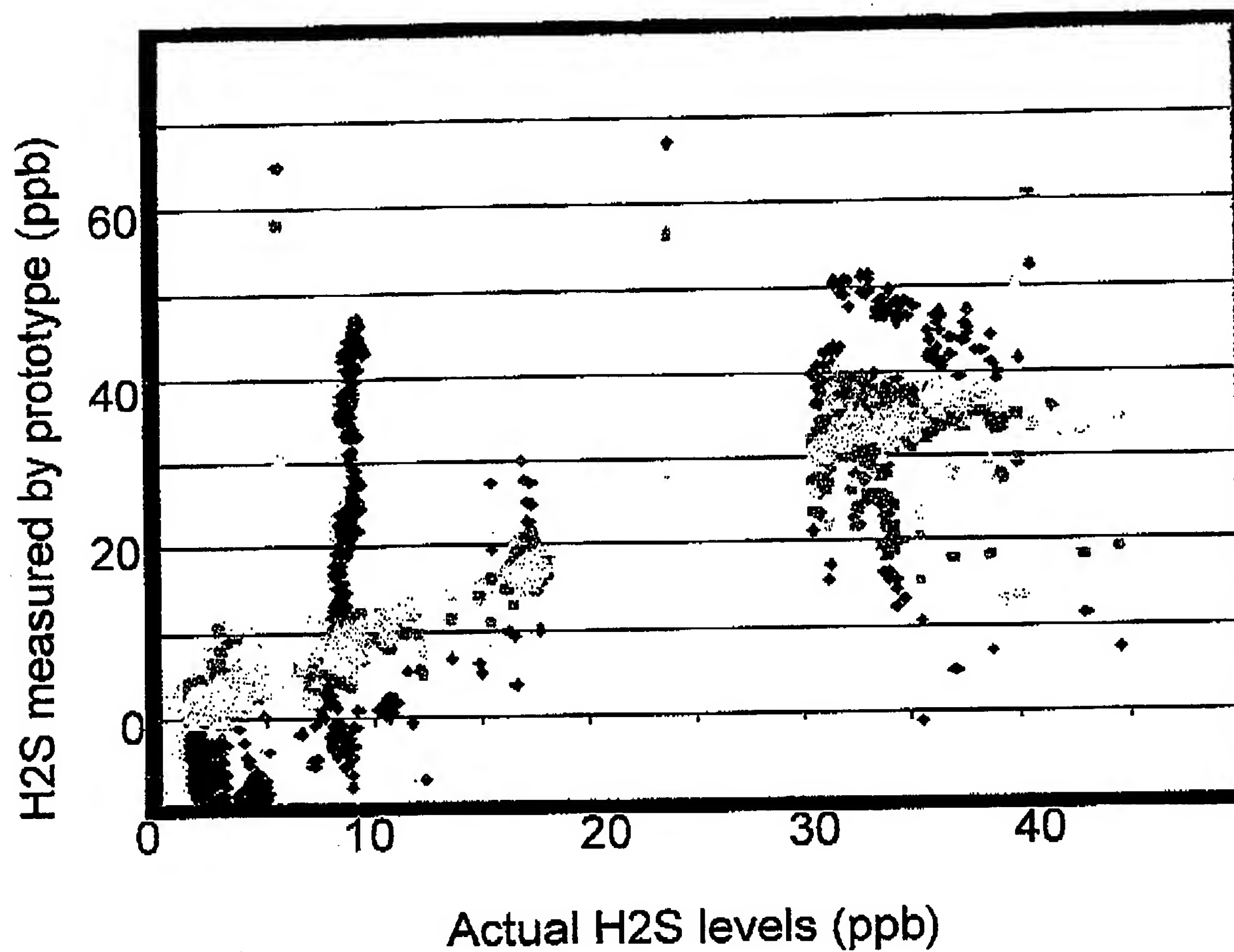


Figure 3: Sensitivity corrected output

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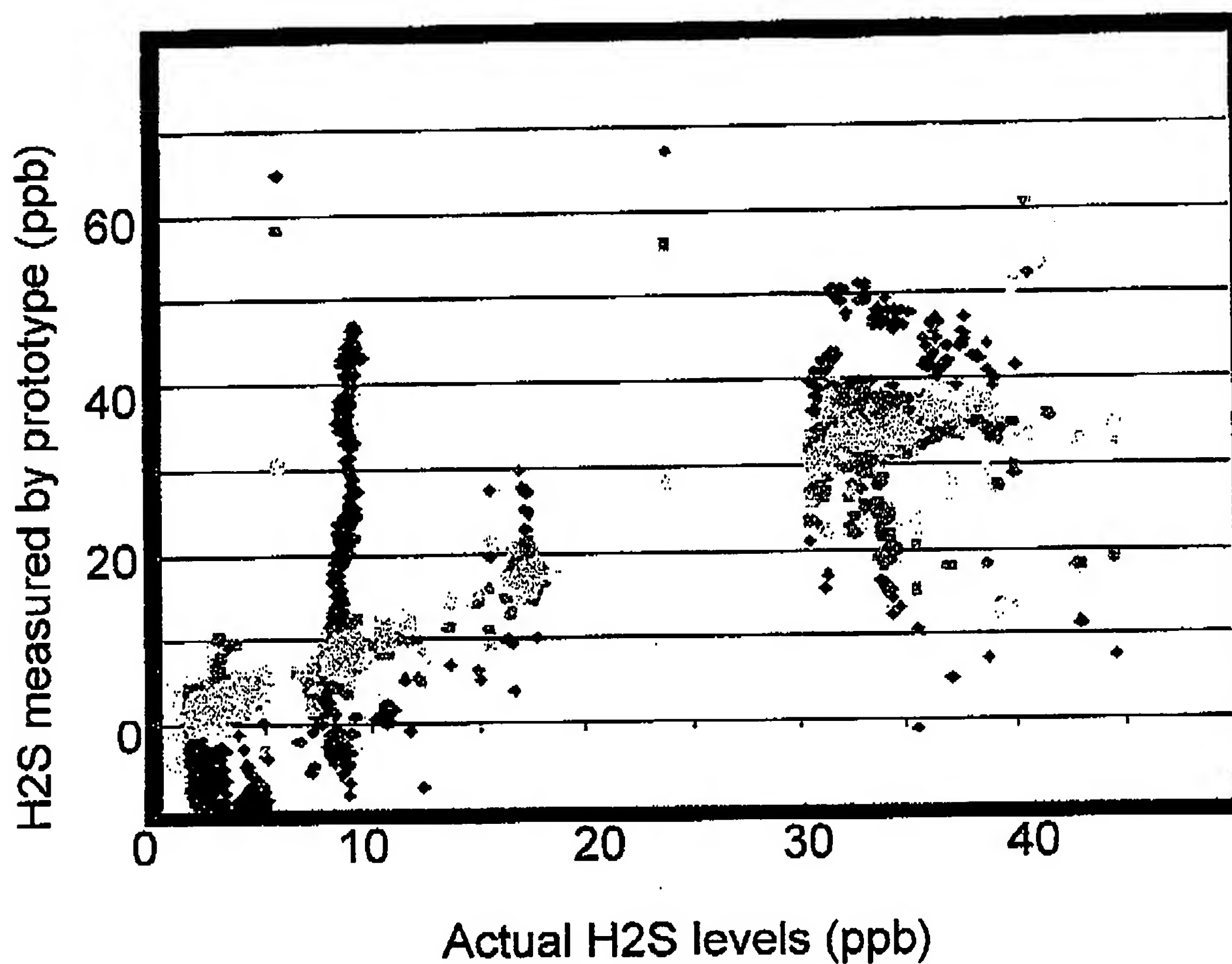


Figure 4: Multiple sensors

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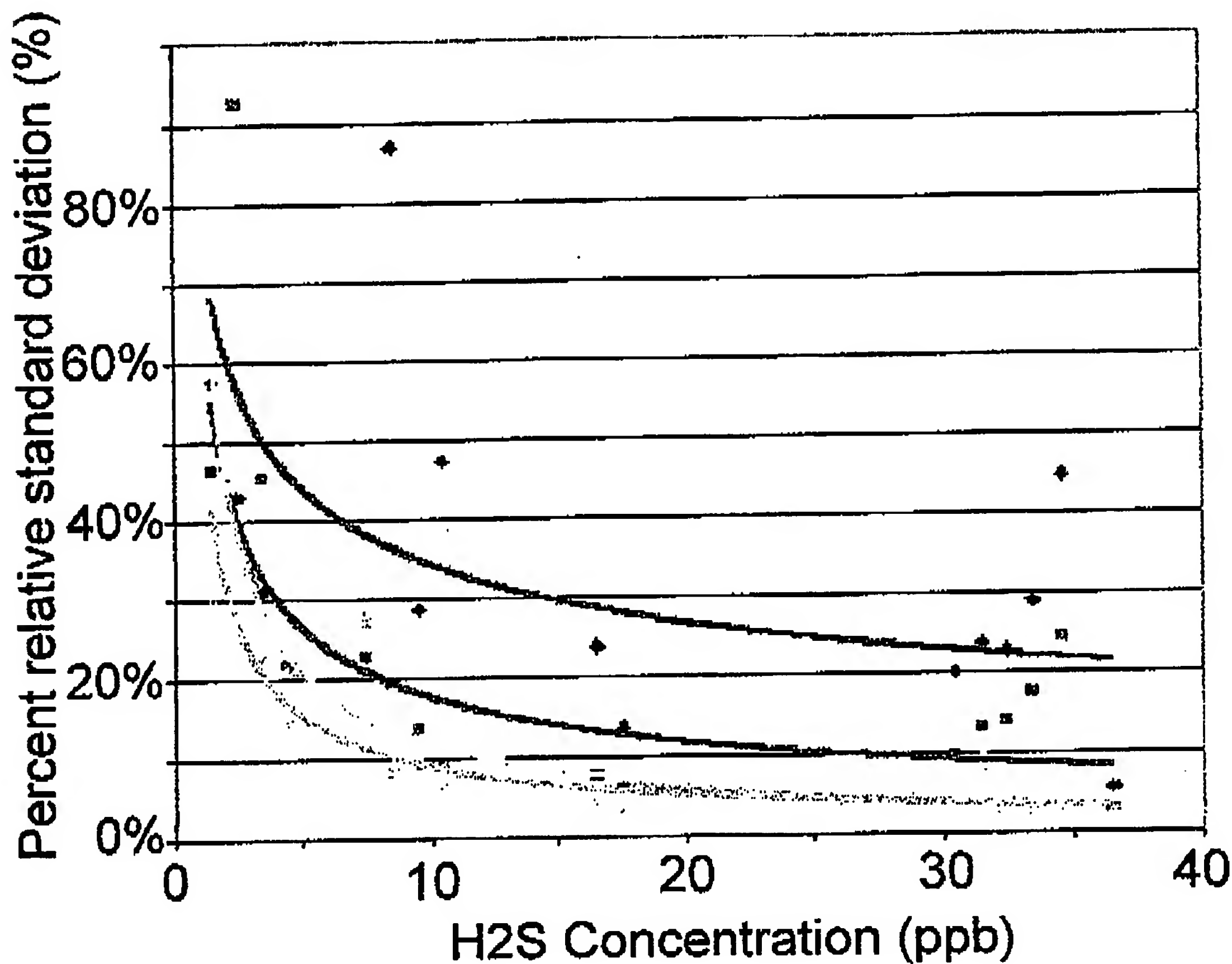
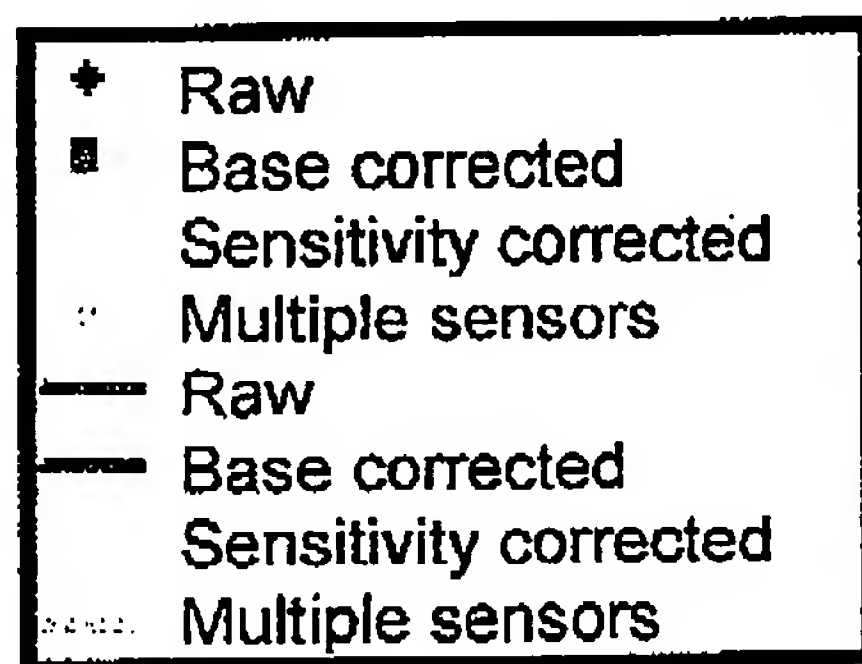


Figure 5: Improvement in monitor precision achieved by methodologies



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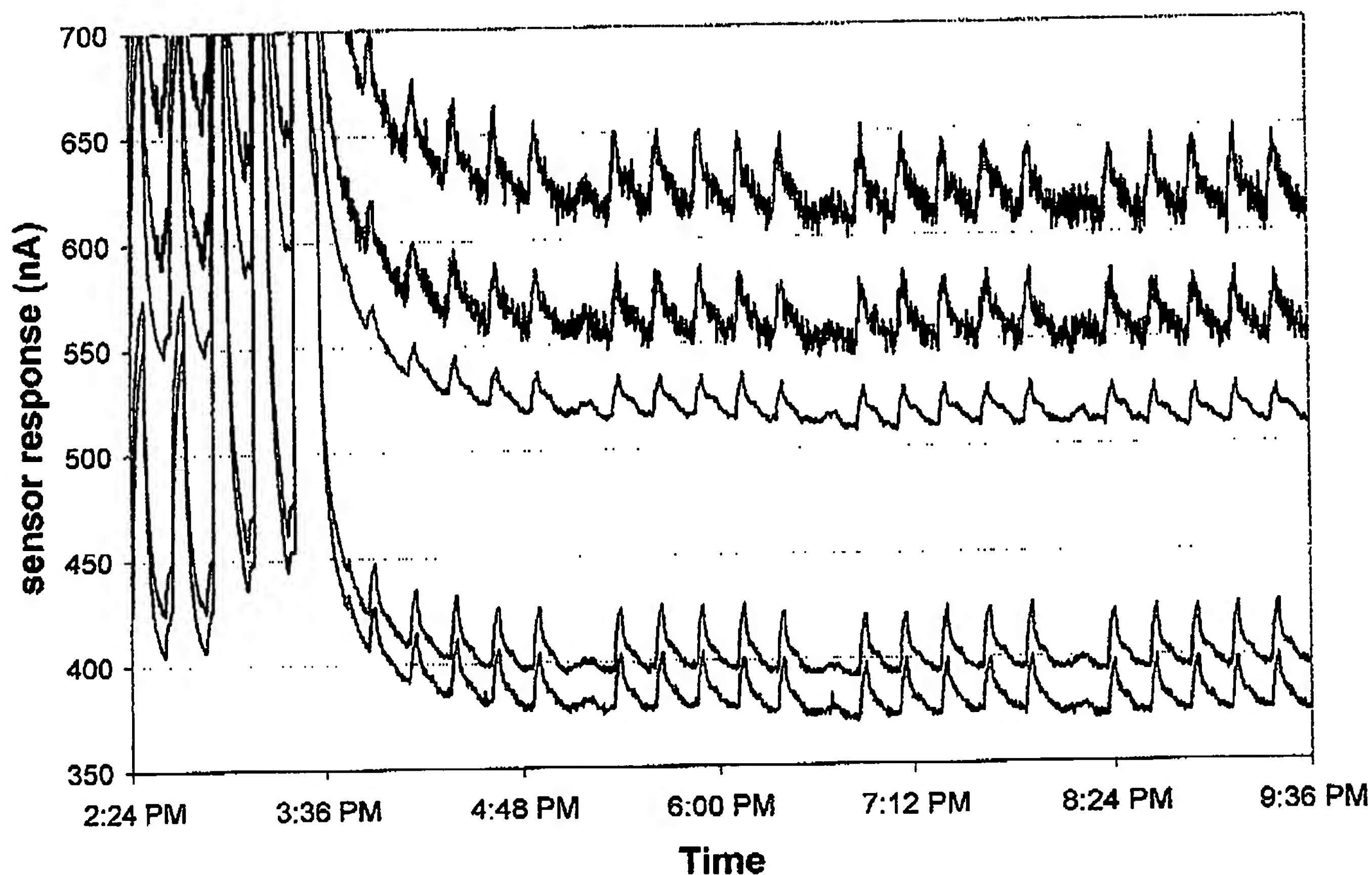


Figure 6: Sample output of five sensors cycling through the modes of operation

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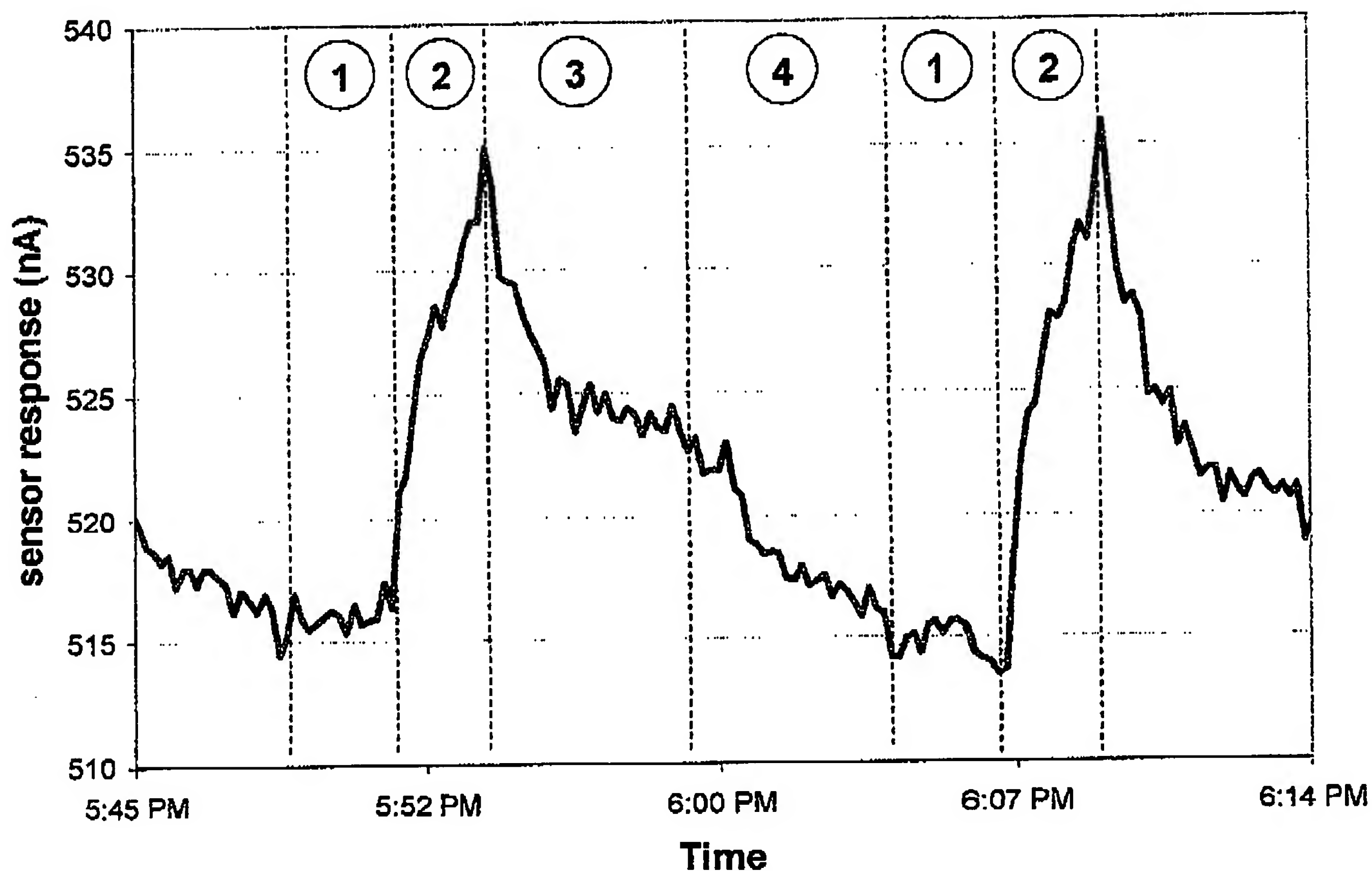


Figure 7: Sensor cycle with 1 ppb H₂S. Cycle sub-section are as follows:

- 1 = Baseline calibration
- 2 = Span Calibration
- 3 = Sample
- 4 = Sample with H₂S filter

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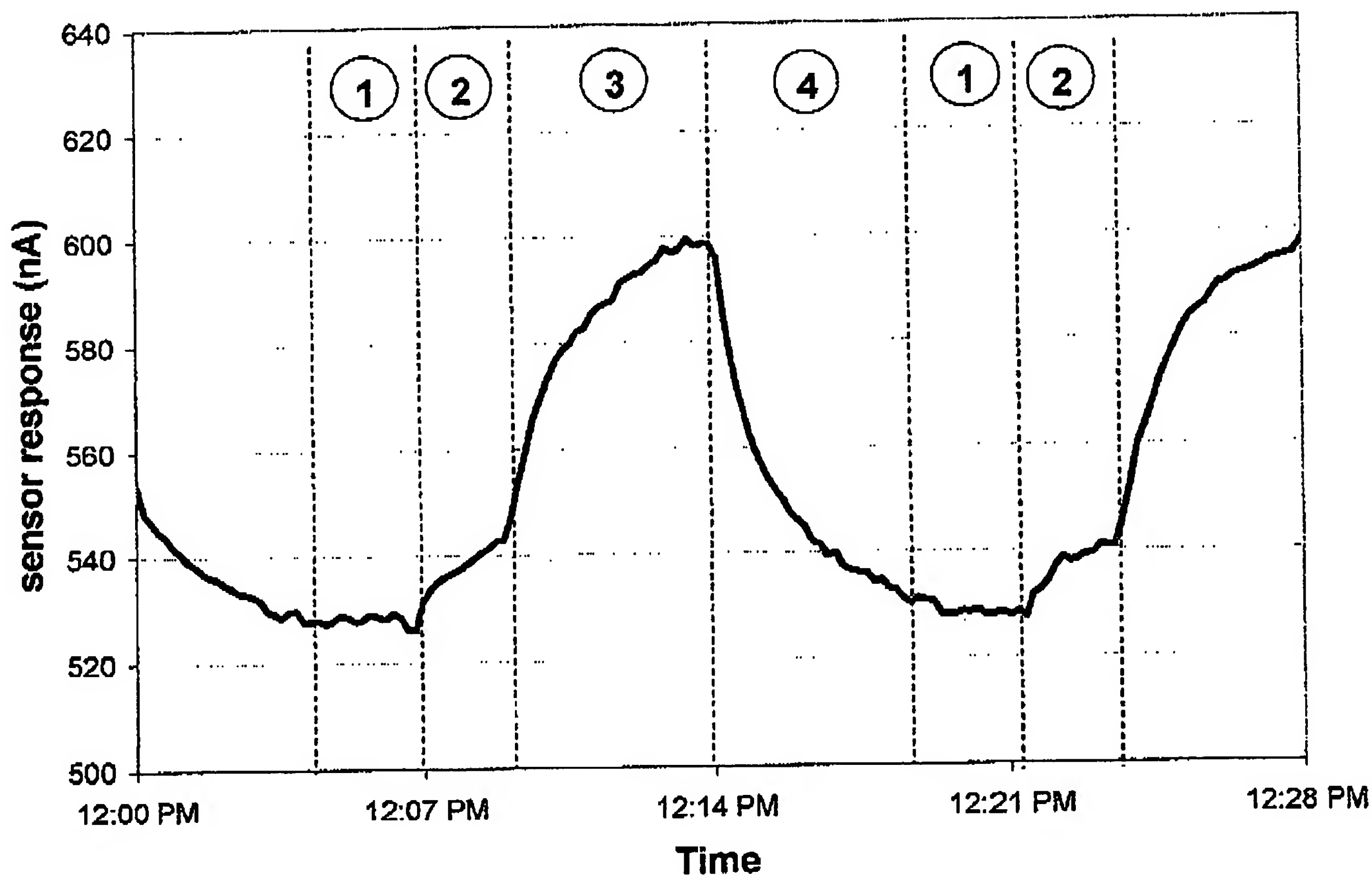


Figure 8: Sensor cycle with 8 ppb H₂S. Cycle sub-section are as follows:

- 1 = Baseline calibration
- 2 = Span Calibration
- 3 = Sample
- 4 = Sample with H₂S filter

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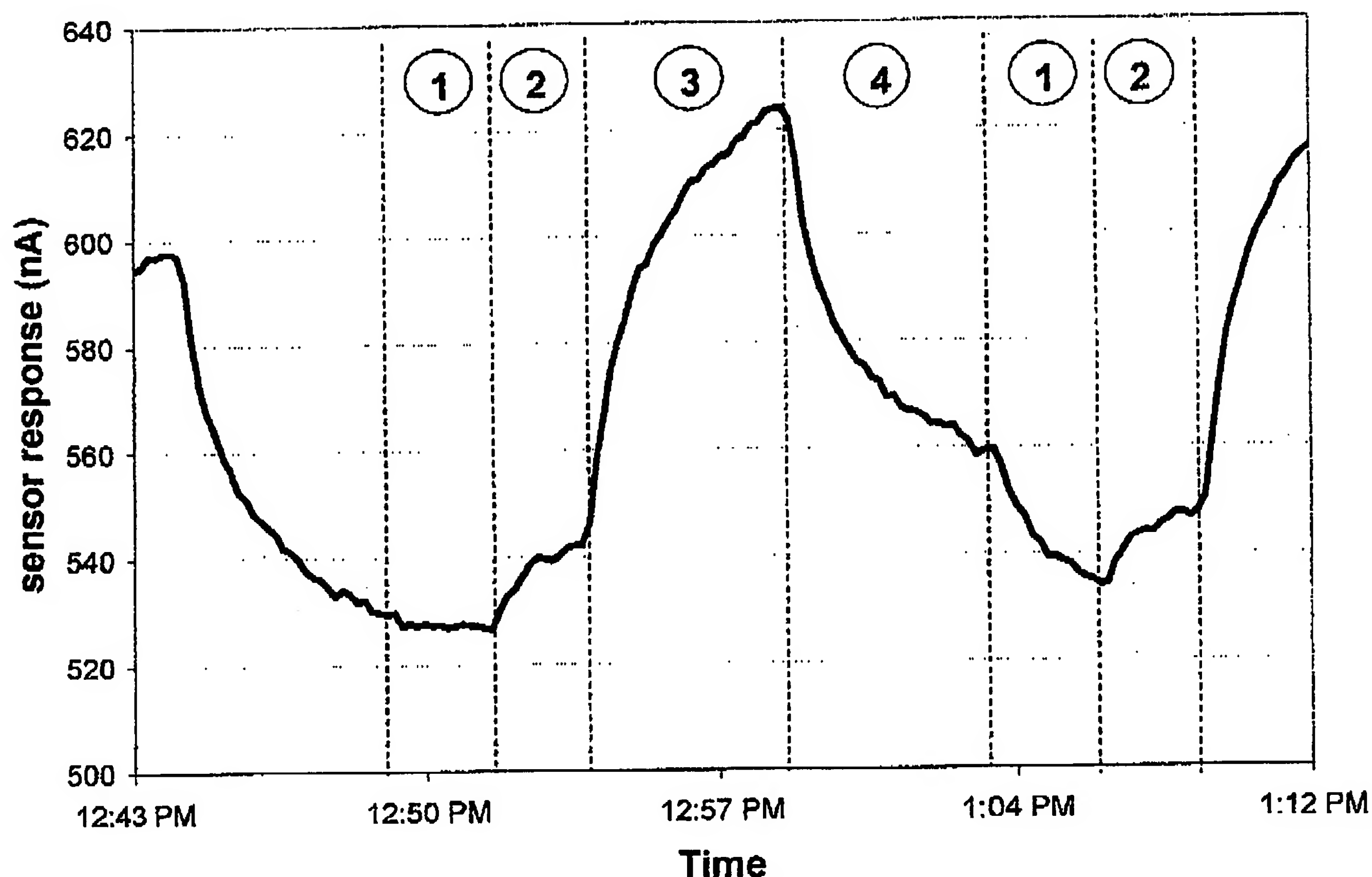


Figure 9: Sensor cycle with 8 ppb H₂S and 15 ppb methyl mercaptan. Cycle sub-section are as follows:

- 1 = Baseline calibration
- 2 = Span Calibration
- 3 = Sample
- 4 = Sample with H₂S filter

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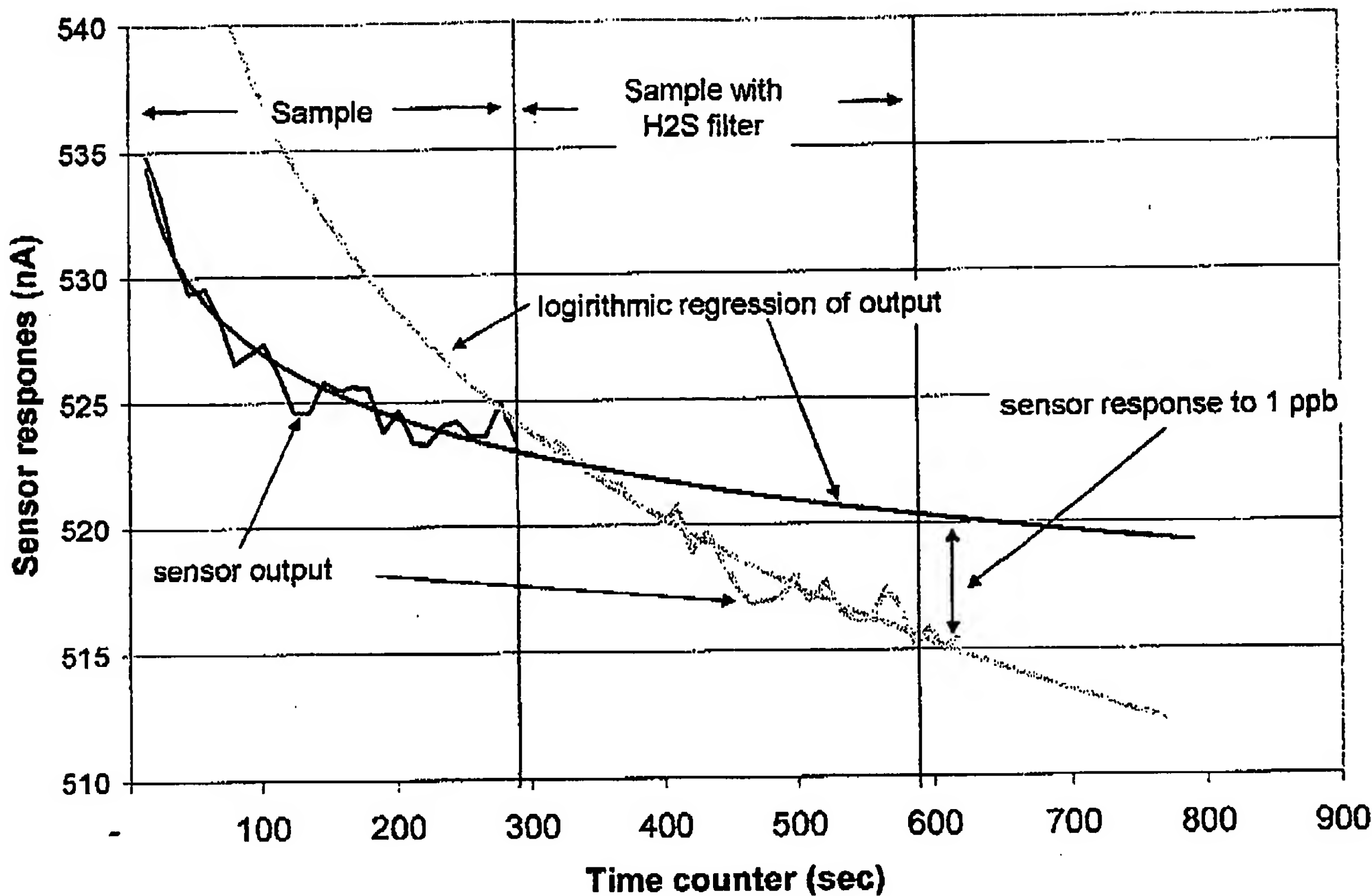


Figure 10: Quantifying sensor response

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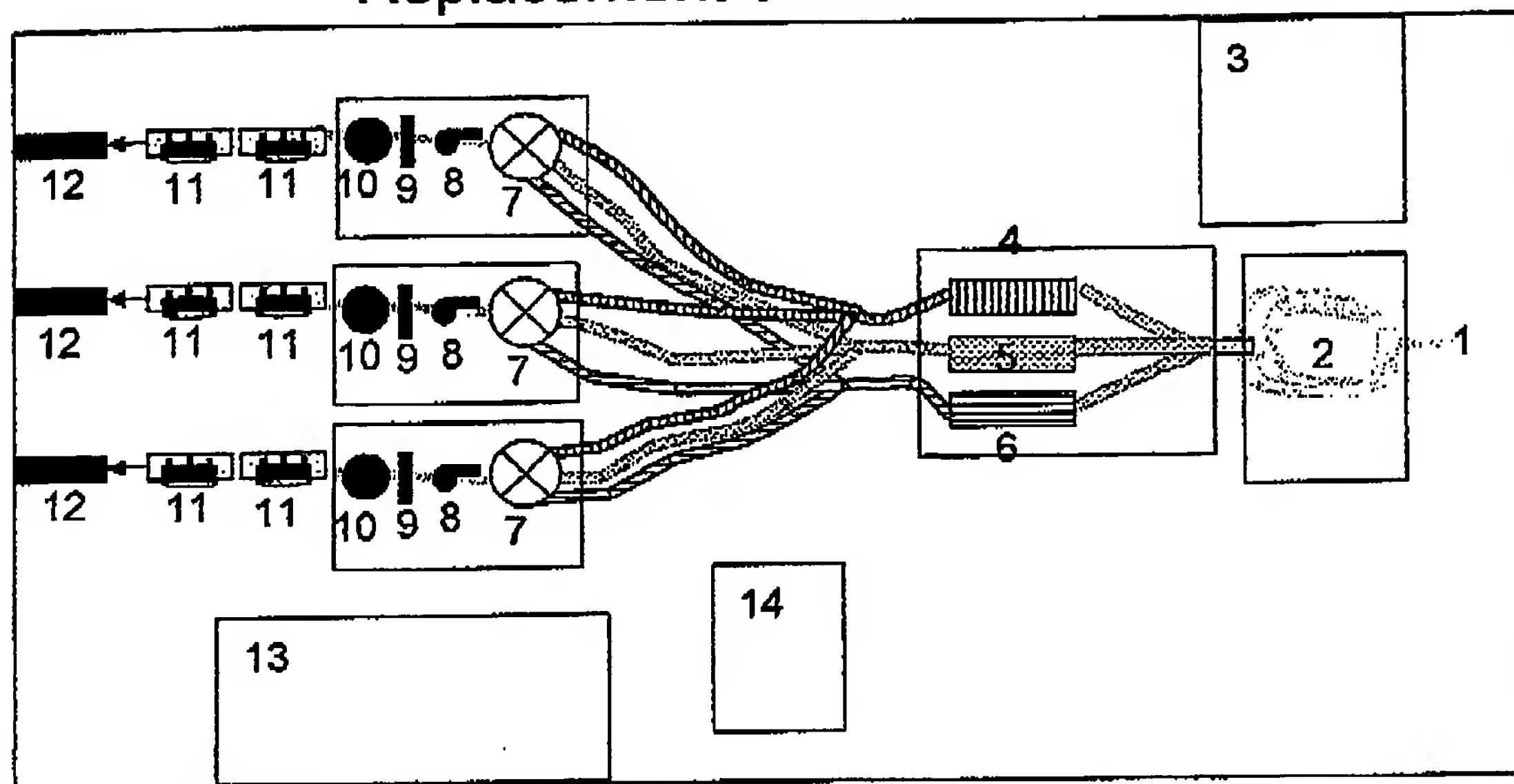


Figure 11: Schematic layout of monitor

- 1 :Sample inlet
- 2: humidity conditioning tube
- 3; Calibration module
- 4: H2S filter and stream
- 5: Sample stream
- 6: Zero filter and stream
- 7stream switching valve
- 8: Sample pump
- 9: Flow Sensor
- 10: H2S source
- 11: Sensors
- 12 exit filter
- 13: controller and memory
- 14: battery module

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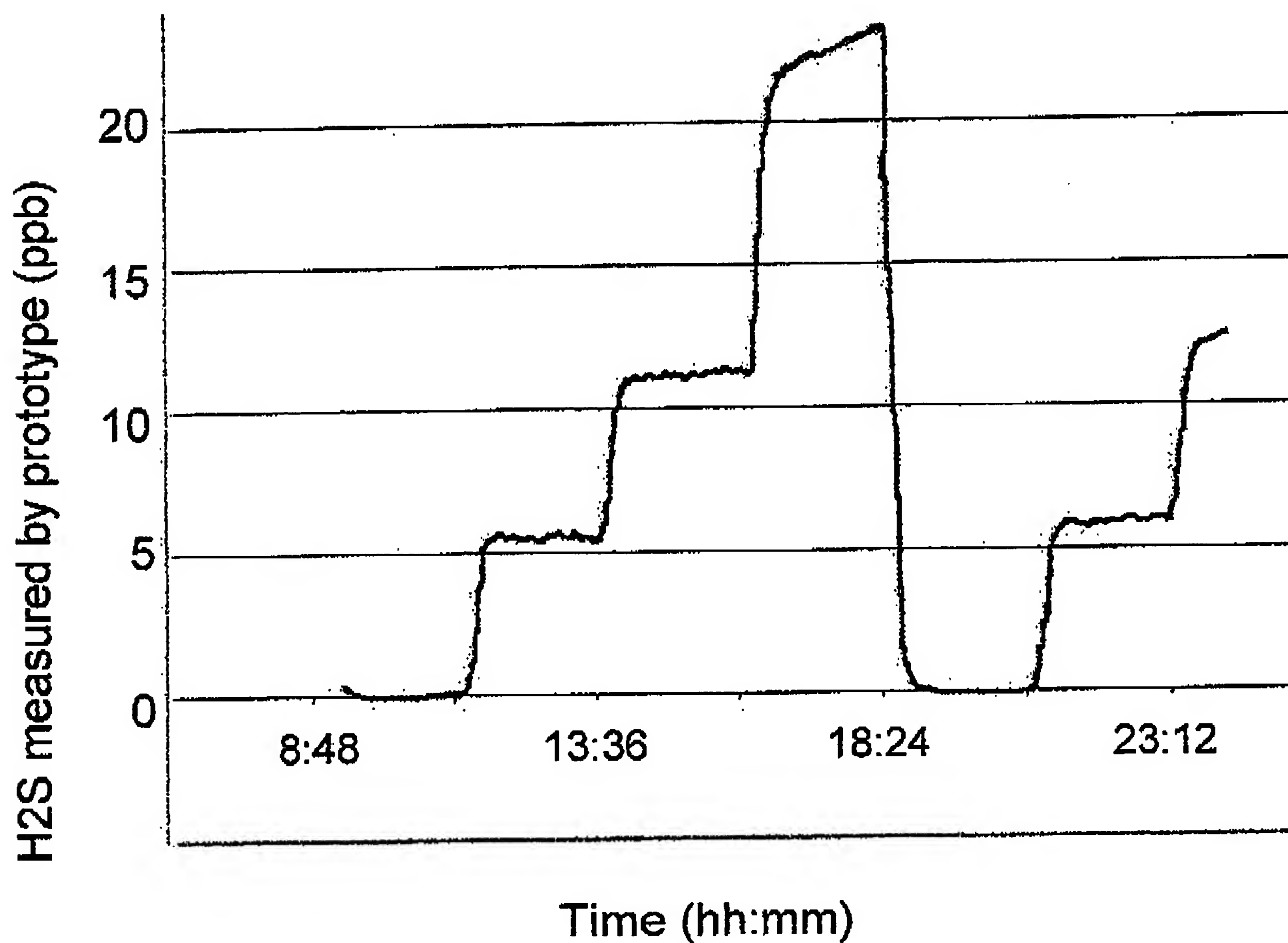


Figure 12: Sample of prototype output measuring 0, 6, 12, and 24 ppb H2S in the laboratory

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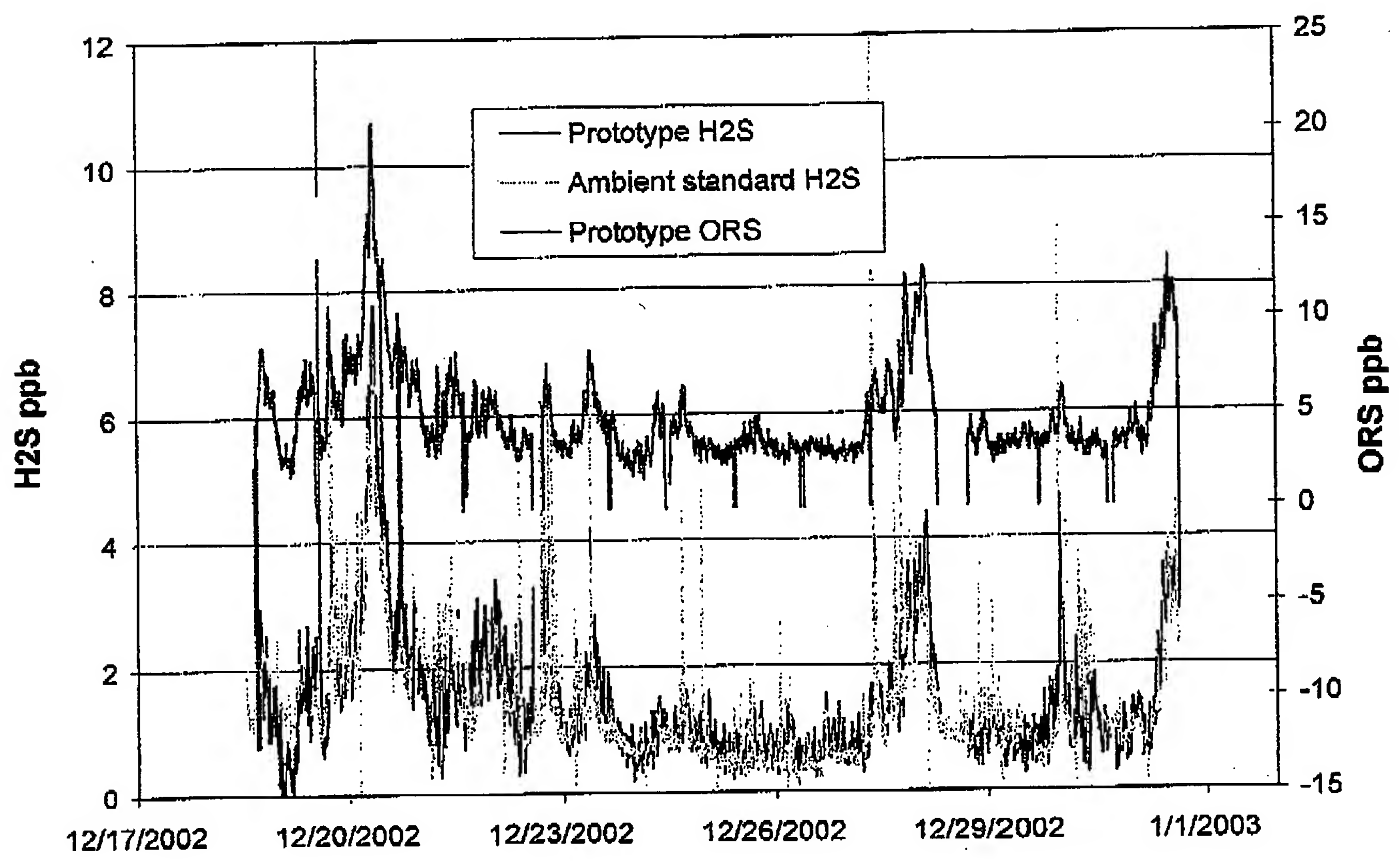


Figure 13: Results of field test with prototype monitor and Alberta Environment ambient station monitor.

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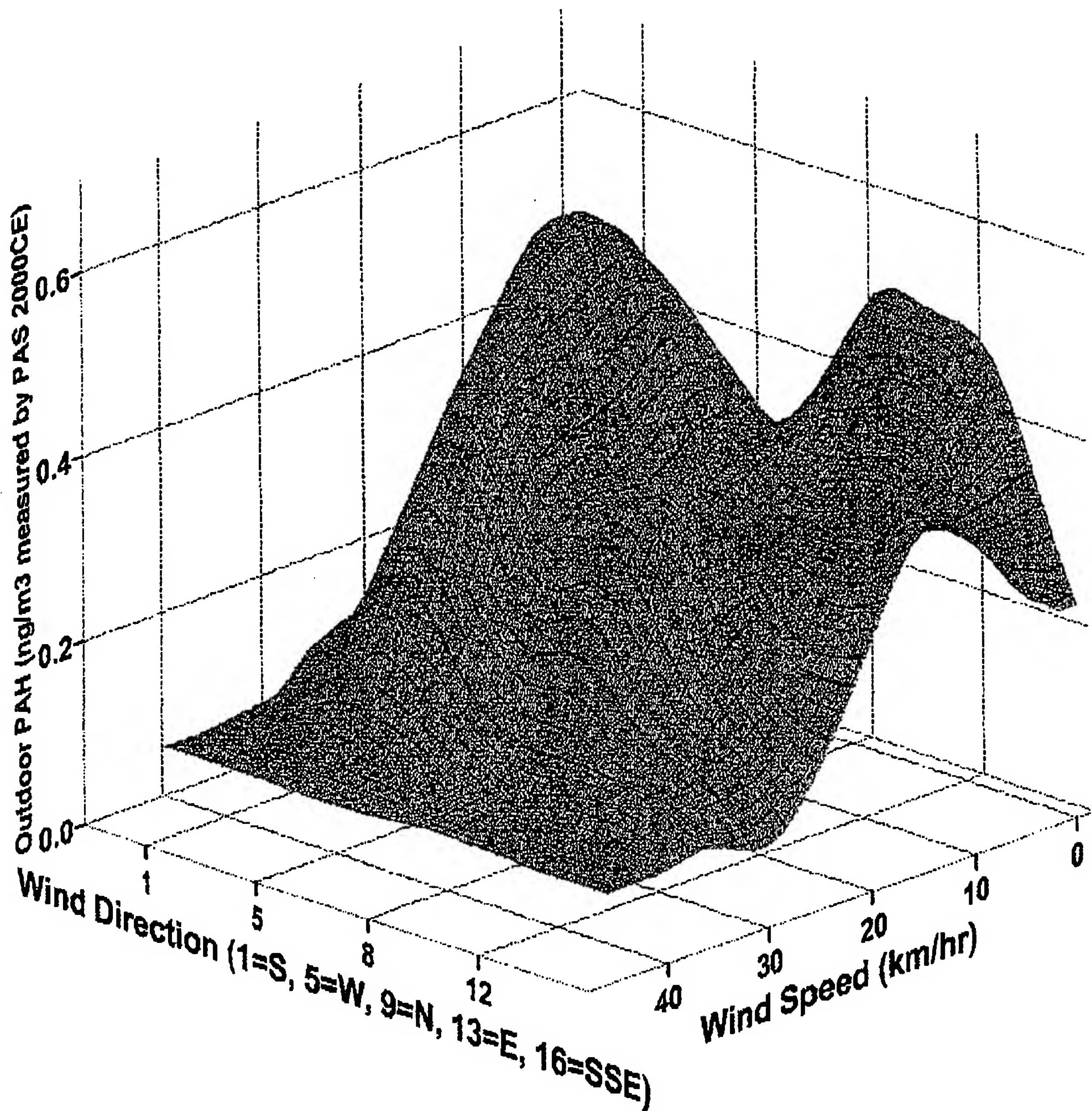


Figure 14: Surface representing mean real-time measures of PAH levels outdoors compared to wind speed and direction.

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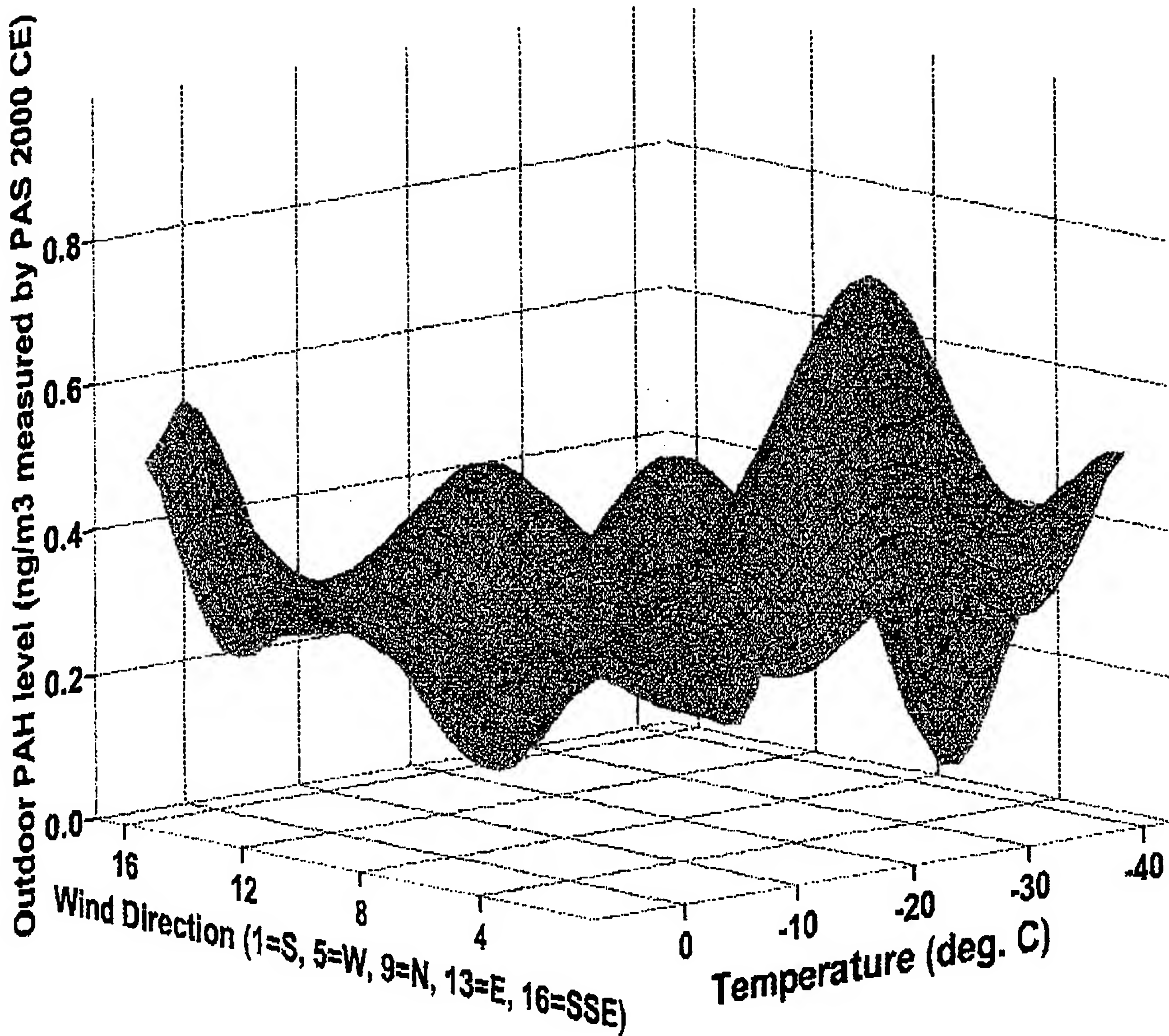


Figure 15: Surface representing mean real-time measures of PAH levels outdoors compared to wind direction and for temperature.

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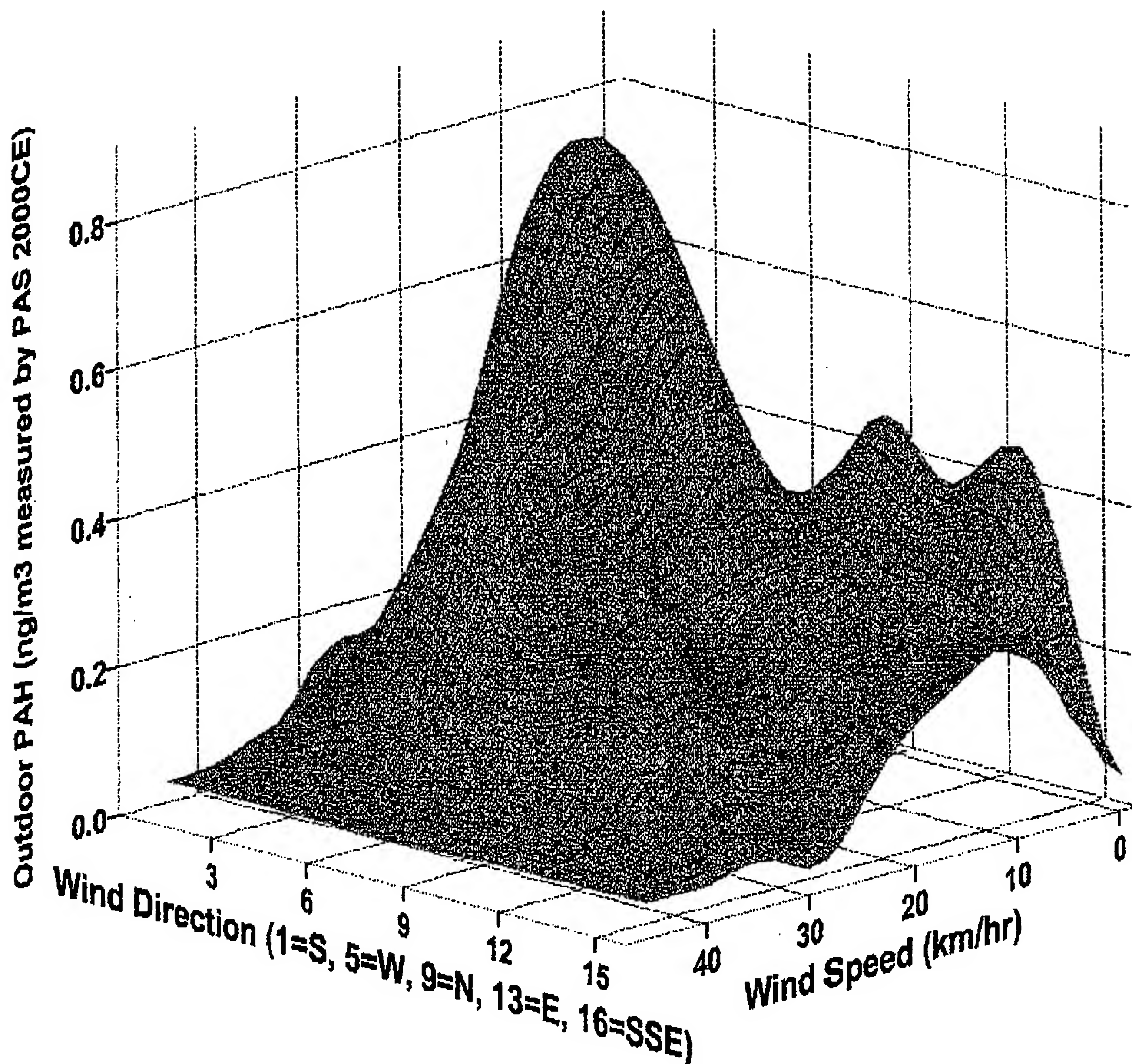


Figure 16: Surface representing mean real-time measures of PAH levels outdoors compared to wind speed and direction for temperatures less the -15 C.

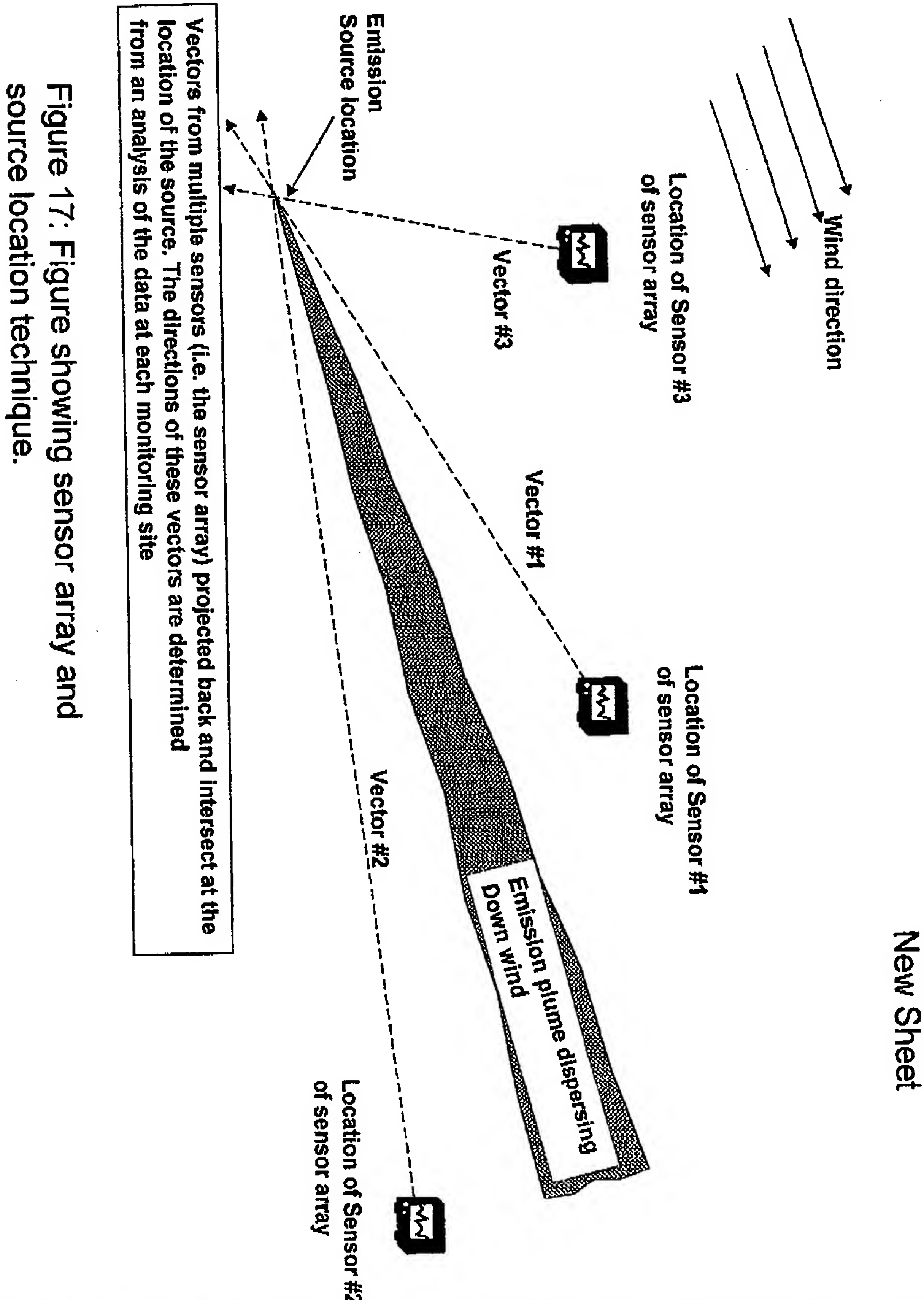


Figure 17: Figure showing sensor array and source location technique.